

## ABSTRACT OF THE DISCLOSURE

[0037] A backing block composite is provided. A transducer is manufactured to include the backing block of composite material. One constituent material provides a skeleton or matrix for enclosing volumes or pockets of another material. The materials are incompatible for bonding, so do not adhere to each other. For example, silicone microspheres are mixed with a nonsilicone resin, forming silicone pockets within the resin. Since the silicone does not adhere to the resin, the silicone may vibrate or otherwise move relative to the cured resin matrix, causing friction between the two materials. As acoustic energy propagates into the backing material, the composite structure of incompatible materials attenuates the acoustic energy as frictionally generated heat between the two materials, or through other processes.